

APSC Engineering Design Team Welding: Policy & Practice

February 2025



THE UNIVERSITY OF BRITISH COLUMBIA

Experiential Learning Hub
Faculty of Applied Science

[EXPERIENCE.APSC.UBC.CA](https://experience.apsc.ubc.ca)

Table of Contents

Terminology

Welding Requirements

Student Team Responsibilities

APSC Responsibilities

Process for Approval

Covering the Cost of Welding Courses

Key Considerations that Inform this Policy and Practice

The information in this document is based on recommendations and discussions with UBC Safety and Risk Services.

- In practice, licensed professional Engineers are required to adhere to standards of practice, rules and regulations and to ensure they are performing work within their areas of competence. While students do not yet have their P.Eng, we expect that they practice this while at UBC and thus limit their work to what they are approved to do.
- UBC considers welding to be a high-risk activity, based largely on the long-term health impacts of the activity.
- UBC Engineering's core mission is to educate and graduate Engineers. We do not teach welding as part of our curriculum, and it is not a degree requirement to be able to weld.
 - While in some cases welding is done as part of curricular programming, that welding is supervised by a staff or faculty member.
- Some Engineering Design Teams (EDTs) are required to do welding as part of their competition rules, and the welding must be done by students on the team.

Terminology

EDT APPROVED WELDER – students on Design Teams who have been approved by the Faculty to perform competition-required welding activities.

APSC DESIGNATED WELDER – student(s) who holds a valid certification that has been obtained from previous experience, work or education that is not formally part of other engineering design team experience and has been approved by the Faculty to perform welding tasks for Design Teams who must outsource welding work. Students in this role going forward must have a formal welding certification.

Welding Requirements for the Design Team Ecosystem

1. Welding is a “Need To Do” Task

- Only teams who cannot outsource their welding due to competition requirements can weld.
- There must be a documented competition requirement that states that the welding must be done by students (e.g. explicitly written in the competition rules).
- All other welding should be outsourced or completed by the hired APSC designated welders.
- Welding should be done for critical path work only.
- EDTs that do not have a competition requirement to weld, may speak with APSC PD and Richard Colwell as to whether they may meet requirements to have an EDT approved welder on their team.

2. Welding activities will be approved by APSC based on the following:

- Team must be able to show that student welding is a requirement as dictated by their competition rules.
- Competition requirements must show that there are safety measures in place that requires that welds are being done to a specification.
- The team has shown a consistent track record of attending competitions, thus making the welding activities a regular requirement of their team activities.

3. Students can become “EDT approved welders” for their team, providing that all the following parameters are met:

- A maximum of 2-3 students on the team can be designated as EDT approved welders for those teams that meet the necessary criteria outlined above.
- Have BCIT welding training course or equivalent
 - Training is the responsibility of the student, but a portion of the cost may be covered by the design team and/or through PAF (see below for additional details).
- Submit a “welding resume” including their welding experience, hours, types of welding completed, etc., including references from an employer, high school shop teacher, or anyone who can verify that the student has welding experience.

4. APSC will invest in appropriate welding safety equipment.

- The welding SOP already exists, but it will be reviewed annually.
- APSC will provide a welding screen and a welding fume extractor that can be booked by teams to use during their welding work.

Student Team Responsibilities

1. Teams must annually renew their team’s welding approval by showing competition documents/evidence of need to weld and submitting the names of students who are their “EDT approved welders”, or having any new welders be approved as per above
2. Attend competitions regularly (dependent on team timelines)
3. Teams must only allow the designated students to weld
4. Teams must use the appropriate welding safety equipment for the proposed welding task. No deviation from the proposed welding task is permitted without informing APSC of change in scope
5. Teams must create a welding schedule for themselves to ensure equitable access to welding equipment
6. Welding can never be done alone.
7. EDT approved welders may not weld for other teams, even competition teams which have their own approved welders.
8. Teams acknowledge that APSC reserves the right to stop a team from doing welding work if any of the conditions above are not satisfied.

APSC Responsibilities

1. Maintain up-to-date SOPs for welding; to be reviewed annually
2. Provide access to the current welding SOP
3. Provide appropriate welding safety equipment for the approved welding tasks that are being completed.
4. Assess which teams are eligible to weld.
5. Assess which students can be EDT approved welders.
6. Continue to pay 1-2 students per year to be the “APSC Designated Welder(s)” to support other minor welding activities for teams who are not required to weld as part of their competition activities, but still require welding as part of their projects.

Process for becoming a team that is approved to weld and getting students approved as EDT- Approved Welders:

1. All teams must first reach out to APSC PD to determine whether they meet the requirements to have a designated welder (see Welding Requirements above).
2. Once APSC PD has given you written approval for your team to hold an EDT-designated welder, you may then move on to step 3.
3. Determine who on your team has the appropriate experience and training. Appropriate training and experience may include:
 - [BCIT Welding Foundations](#) training course
 - Other certified welding courses from recognized institutions (*to be vetted by APSC on a case-by-case basis*).
 - Welding “resume” listing welding experience with references + [UBC Approved welding safety course](#)
4. Send the names of the students and the appropriate proof of certification and any other relevant/required materials to Richard Colwell
5. Richard will respond confirming whether the students are eligible to weld for the team
6. Approved EDT welders must be confirmed each academic year (September – August)

Process for teams to be approved to have EDT approved welders do welding:

- Submit the following information to Richard Colwell and Minoli Navaratnam:
 - Competition requirements that show that students must weld as part of participation in the competition and the weld specifications.
 - Updated SOP clarifying the work that is being completed using the [UBC Safe Work Procedure template](#)
 - Once reviewed, Richard or Minoli will respond with the outcome of whether the team is allowed to weld

Covering the cost of Welding Courses

Any student participating in training courses is responsible for the costs incurred (course fees, supplies, etc.). A portion of the costs may be covered in the following ways:

- All eligible students may apply to the Professional Activities Fund – Travel and Conferences under the “Registration Fees for PD” subcategory.
- Design teams may reimburse up to \$250 of the registration cost (per approved student) once per year from their team funds providing that the student becomes the approved designated welder for the team.
 - The successful welder may be reimbursed up to the total cost of the course (i.e., \$250 per year until the course has been paid off, providing they continue to be the team’s welder).